



# RECEIVED

MAR 1 4 2002

## TECH CENTER 1600/2900

Shhet 1 of 13

SUBSTITUTE FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE					ocket No.		112430.134US7 09/993,739	
			Applicant		Lee et	al.		
	INFORMATI	ION DISCLOSU	IRE NT	Filing Date	<b>:</b>	Nov. 2	23, 2001	
	(Use several	sheets if neces	sary)	Group		1616	1	
(37 CFR §1.9	8/b))			IDS Filed				
(37 07 17 91.5	0(0)/		U.S. PATENTS					
Examiner's Initials	Patent Number	Issue Date	Patentee		Class	Subclass	Filing Date (If Appropriate)	
IN	5,605,713	02/25/97	Boltong			<i>f</i>		
M	5,152,836	09/12/91	Hirano .		/	(		
	. FORE	IGN PATENT (	R PUBLISHED FOREIGN	PATENT AF	PLICATIO	N		
Examiner's Initials	Document Number	Publication Date	Country or Patent Office		Class	Subclass	Translation (Yes/No)	
M	JP 06228011	12/12/94	Japan				Abstract only	
-16-	JP 7277712	10/24/95	Japan	-			Abstract only	
	JP 63111875	05/17/88	Japan				Abstract only	
	WO 92/02453	07/05/91	HOT WO					
	WO 94/02412	02/03/94	FCWO	-				
	WO 94/04657	08/12/93	PCT WU					
	WO 94/25080	11/10/94	PPTW0					
	WO 95/08319	09/23/94	PT 4/0					
	WO 96/36562	05/20/96	POT WO					
	WO 97/17285	11/07/96	PAT WU					
	WO 92/001009	01/09/92	POT WO					
	WO 94/20064	09/15/94	PETWO					
1/	EP 0 268 463	05/25/88	Europe					
4	EP 0 347 028	11/18/89	Europe		(			
EXAMINER	DATE CONCIDENCE OF A CONCIDENC							
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.								

04712.020004 1449 10.99.wpd

Revised: 27 January 199





## RECEIVED

MAR 1 4 2002

## TECH CENTER 1600/2900

Sheet 2 of 13

SUBSTITUTE	FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE	Attorney Docket No.	112430.134US7
(MODIFIED)	PATENT AND TRADEMARK OFFICE	Serial No.	09/993,739
		Applicant	Lee et al.
	INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date	Nov. 23, 2001
	(Use several sheets if necessary)	Group	1616
(37 CFR §1.98	3(b))	IDS Filed	· · · · · · · · · · · · · · · · · · ·
· · · · · · · · · · · · · · · · · · ·	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, D	ATE, PLACE OF PUBL	ICATION)
N	Appel et al. "Recent Advances in Implants for Bone Growth	Promotion* Exp. Opin.	Ther. Patents 4:1461 (1994)
	Athanasou et al., "Current Concepts Review Cellular Biology 78A:1096-1112 (1996)	y of Bone-Resorbing Ce	ils" J. Bone and Joint Surg.
	Hayes et al., "Augmentation of Cementless Femoral Stems Calcium-Phosphate Bone Material Substitute" 61st Annual A. New Orleans (02/94)	to Improve Initial Stabili merican Academy of O	thopedic Surgeons Meeting,
	Jang "Advanced Polymer Composites" Chapter 1, Introduction	on, The Materials Inform	nation Society
	Norian Corporation, Product Information Sheet, "The Materia System"	al Science of Norian SR	S™, Skeletal Repair 9 S
	Rey et al., "Chemical Properties of Poorly Crystalline Apatite only	es" Phosphorus Res. Bu	dl. 6:67-70 (1996) abstract
	4		
EXAMINER	Millow DATE COM	NSIDERED 3/1/3/	103
EXAMINER: In form with the n	nitial citation considered. Draw line through citation if not in context communication to applicant	nformance and not cons	sidered. Include copy of this

Revised: 27 January 1997



Science, 267:1976, (March, 1995.)

# MAR 1 4 2012 7

Sheet 3 of 13

ment of Commerce Atty. Docket: In re Application No. Form PTO-1449 112430.134US7 09/993,739 Patent and Trademark Office (REV. 8-83) INFORMATION DISCLOSURE STATEMENT Applicant: Lee et al. (Use several sheets if necessary) Group: 1616 Filing Date: Nov. 23, 2001 U. S. PATENT DOCUMENTS Subclass Class Issue Date Applicant U.S. Patent No. Examiner's Initials 116 523 August 4, 1987 Adachi 4,684,673 423 424 November 16, Liu et al. 5,262,166 1993 35 106 January 25, 1994 Liu 5,281,265 308 423 June 27, 1995 Nagata et al. 5,427,754 548 424 May 14, 1996 Atala et al. 5,516,532 523 115 October 15, 1996 Glimcher et al. 5,565,502 16 623 September 9, 1997 Ohtsuka et al. 5,665,120 115 523 November 25, Glimcher et al. 5,691,397 1997 16 623 December 23. Breitbart et al. 5,700,289 1997 690 106 July 21, 1998 Constantz et al. 5,782,971 FOREIGN PATENT DOCUMENTS Examiner's Translation Date Country Document No. **Initials** No Yes International /1/0 April 28, 1994 WO 94/08458 OTHER DOCUMENTS Examiner's (Including Author, Title, Date, Pertinent Pages, Etc.) **Initials** Barton, et al., "Surface and Bulk Properties of Amorphous Calcium Phosphate", Colloid Interface Sci., 50th Proceeding Int'l Conf. 3:71(1976) CA:87:73954v Besic, et al., "Electron Probe Microanalysis of Noncarious Enamel and Dentin and Calcified Tissues in Mottled Teeth", J. Dent. Res, 48: 131, Jan-Feb, 1969 Constanz, et al., "Skeletal Repair by in Situ Formation of the Mineral Phase of Bone",

### RECEIVED

MAR 1 4 2002

Sheet 4 of 13

U.S. Department JEGHRENTER 1600 2800. Docket: In re Application No. Form PTO-1449 112430.134US7 09/993,739 Patent and Trademark Office (REV. 8-83) INFORMATION DISCLOSURE STATEMENT Applicant: Lee et al. Group: 1616 (Use several sheets if necessary) Filing Date: Nov. 23, 2001 Driessens, et al., "Calcium Phosphate Bone Cements", Encyclopedic Handbook of Biomaterials and Bioengineering, Wise (Eds) New York, Marcel Dekker, pp 855-877, 1995. Ducheyne, et al., "Introduction to Bioceramic Composites", Bioceramics, Advanced Series MAR 0 8 20 in Ceramics, Volume I. Eanes, "Thermochemical Studies on Amorphous Calcium Phosphate", Calc. Tiss. Res. TA TRADEN 5:133 (1979) Eanes, et al., "Intermediate Phases in the Basic Solution Preparation of Akaline Earth Phosphates", Calcified Tissue Res. 2(1): 38 (1968) Eanes, et al., "Intermediate States in the Precipitation of Hydroxyapatite", Nature, 208: 365, (October 1965.) Fukase, et al., "Setting Reactions and Compressive Strengths of Calcium Phosphate Cements", J. Dent. Res 69(12): 1852, (December, 1990) Gao, et al., "Established Competence of Bioactive Composite Bone Substitute on the Healing of Diaphyseal Segmental Defects in Sheep, Fifth World Biomaterials Congress, May 29-June 2, 1996, Toronto, Canada Glimcher, "Recent Studies of the Mineral Phase in Bone and its Possible Linkage to the Organic Matrix by Protein-Bound Phosphate Bonds", Phil. Trans. R. Soc. Land. B 304: 479 (1984). Glimcher, et al. "Recent Studies of Bone Mineral is the Amorphous Calcium Phosphate Theory Valid", Journal of Crystal Growth 53:100 (1981) Graves, et al., "Resorbable Ceramic Implants", J. Biomed, Mater. Res. Symposium 2:91, (1971)Greenfield, et al., "Formation Chemistry of Amorphous Calcium Phosphates Prepared from Carbonate Containing Solutions", Calc. Tiss. Res. 9: 152 (1972). Hollinger, et al., "Role of Bone Substitutes", Clinical Orthopaedics and Related Research, 324: 55, (1996). Horioglu, et al., "Long Term Follow-up of Hydroxyapatte Cement (HAC) Implants for Craniofacial Reconstruction", 21st Annual Meeting of the Society for Biomaterials, March 18-22, 1995, San Francisco, CA Ishikawa, et al., "Effects of Preparation Conditions in Aqueous Solution on Properties of Hydroxyapatites",9 (1):58 (1990) [CA 113:21868j]

My Ruy 3/101

U.S. Department of Commerce Form PTO-1449 Patent and Trademark Office (REV. 8-83)

Atty. Docket: 112430.134US7 In re Application No. 09/993,739

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Applicant: Lee et al.

Filing Date:

Nov. 23, 2001

Group: 1616

OIPE AND OR BOTTON	Kinoshita, et al., "Reconstruction of Mandibular Autogenic Particulate Cancellous Bone and Marn Biomaterials Congress, May 29-June 2, 1996.	Foronto, CA					
Labarthe, et al., "Sur La Structure Et Les Proprietes Des Apatites Carbonatees De							
TAR THANKS	Nylen, et al., "Molecular and Ultrastructural Str Phosphates", Calc. Tiss. Res. 9:95, 1972.						
	Otsuka, et al., "Effect of Particle Size of Metass Strength of a Novel Self-Setting Bioactive Calcin Biomedical Materials Research, 29:25 (1995)	table Calcium Phosphates on Mechanical um Phosphate Cement", Journal of					
	Pool, "Coral Chemistry Leads to Human Bone Repair", Science 269:1772 (March,						
	Posner, et al., "Synthetic Amorphous Calcium Phosphate and its Relation to Bone M. Structure", Bone Mineral Structure, 8:273 (1975)						
	Rey, et al., "Preparation of Microporous Ceramic at Low Temperature From Poorly Crystalline Apatite", Symposium Abstract, 1993.						
	Rey, et al., "Structural Studies of the Mineral P Res. 6:515, 1991.	Phase of Calcifying Cartilage", J. Bone Min.					
	Rey, et al., "The Carbonate Environment in Bone Mineral: A Resolution-Enhanced For Transform Infrared Spectroscopy Study, Cal. Tissue Int. 45:157-164, 1989.						
2							
	Tung, et al., "An Intermediate State in Hydrolysis of Amorphous Calcium Phosphate", Calc. Tissue Int. 35:784, 1983.						
	Yasue, et al., "Effect of Adsorption of Succine Calcium Phosphate, International Edition, 102(1	(2):1122(1994)					
FXAMINER	()111)	DATE CONSIDERED 31/103					
I EVAINITAEV							

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next

communication to applicant.

DS1.443135.1

**EXAMINER** 

A retarna



Sheet 6 of 13

Form PTO-1449 (REV. 8-83)

U.S. Department of Commerce Patent and Trademark Office

Atty. Docket 112430.134US7 In re Application No. 09/993,739

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Applicant: Lee et al.

Filing Date Nov. 23, 2001

Group 1616

#### LLS PATENT DOCUMENTS

	•	U. S. PATENT DOCU	DIMEN 12		
Examiner's Initials	U.S. Patent No.	Applicant	Issue Date	Class	Subclass
M	Re. 33,161	Brown et al.	Feb. 6, 1990	423	308
	Re. 33,221	Brown et al.	May 22, 1990	423	308
	4,157,378	Tomlinson et al.	June 5, 1979	423	301
	4,612,053	Brown et al.	Sep. 16, 1986	706	35
	4,737,411	Graves, Jr. et al.	Apr. 12, 1988	428	403
	5,427,754	Nagata et. al	Jun. 27, 1995	423	308
	4,429,691	Niwa et. al	Feb. 7, 1984	128	92
	4,849,193	Palmer et. al.	Jul. 18, 1989	423	308 ·
	4,880,610	Constantz	Nov. 14, 1989	423	305
·	4,917,702	Scheicher et al.	Apr. 17, 1990	623	16
	4,938,938	Ewers et al.	July 03, 1990	423	308
	4,959,104	Iino et al.	Sep. 25, 1990	106	85
	5,034,059	Constantz	Jul. 23, 1991	106	161
	5,037,639	Tung	Aug. 6, 1991	424	57 .
	5,047,031	Constantz	Sep. 10, 1991	606	77
	5,053,212	Constantz et al.	Oct. 1, 1991	423	305
	5,085,861	Gerhart et al.	Feb. 4, 1992	424	78.17
	5,129,905	Constantz	Jul. 14, 1992	606	76
	5,149,368	Liu et al.	Sep. 22, 1992	424	602
	5,164,187	Constantz et al.	Nov. 17, 1992	424	423

new Cy 3/10/03

lž ·	<u> </u>				
9 U.S. Bepar		Atty. In re Application   Docket		•	
		Applicant: Lee			
veral sheets if necessary)		Filing Date Nov. 23, 2001	Group 1	616	
5.178,845	Constantz et al.	Jan. 12, 1993	423	305	
	Constantz et al.	Jan. 18, 1994	424	423	
	Gerhart et al.	Feb. 15, 1994	514	7724	
	Constantz et al.	Aug. 9, 1994	623	16	
	Bonfield et al.	Nov. 28, 1995	501	1	
	Ison et al.	Mar. 5, 1996	106	35	
	Chow et al.	June 4, 1996	623	· 11	
	Chow et al.	Jun. 11, 1996	106	35	
	Chow et al.	Aug. 6, 1996	106	35	
	Chow et al.	Aug. 13, 1996	106	35	
FOR	EIGN PATENT DOCU	JMENTS .			
Document No.	Country	Date	Tra	anslation	
	•		Yes	No	
WO 94/02412	PCT (1)	Jul. 7, 1995	1		
EP 0664133	Europe	Feb. 3, 1994	1		
JP 2-182261	Japan	Jul. 16, 1990			
TP 5-305134	Japan	Jul 5, 1993	7		
JP 63170205	Japan	July 14, 1988	1		
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)					
	Patent and U.S. Depart Patent and Several sheets if necessary)  5,178,845 5,279,831 5,286,763 5,336,264 5,470,803 5,496,399 5,522,893 5,542,973 5,545,254  FOR  Document No.  WO 94/02412 EP 0664133 JP 2-182261 JP 5-305134 JP 63170205 (Abstract)	Separation   Commerce   Patent and Trademark Office	Atty. Docket Patent and Trademark Office  ATION DISCLOSURE STATEMENT  Veral sheets if necessary)  5,178,845  Constantz et al.  5,279,831  Constantz et al.  5,286,763  Gerhart et al.  5,336,264  Constantz et al.  5,470,803  Bonfield et al.  5,470,803  Bonfield et al.  Mar. 5, 1996  5,522,893  Chow et al.  Jun. 11, 1996  5,522,973  Chow et al.  Jun. 11, 1996  S,542,973  Chow et al.  Aug. 6, 1996  FOREIGN PATENT DOCUMENTS  Po 2064133  Europe  Feb. 3, 1994  JP 2-182261  Japan  Jul 5, 1993  JP 63170205  (Abstract)  OTHER DOCUMENTS	Atty. Docket Patent and Trademark Office  ATION DISCLOSURE STATEMENT  Docket Patent and Trademark Office  Applicant: Lee et al.  Filing Date Nov. 23, 2001  S,178,845  Constantz et al.  Jan. 12, 1993  423  S,279,831  Constantz et al.  Jan. 18, 1994  5,286,763  Gerhart et al.  Feb. 15, 1994  5,470,803  Bonfield et al.  Nov. 28, 1995  5,470,803  Bonfield et al.  Nov. 28, 1995  5,522,893  Chow et al.  June 4, 1996  623  5,522,893  Chow et al.  Jun. 11, 1996  Tochow et al.  Jun. 11, 1996  Tochow et al.  Aug. 6, 1996  106  FOREIGN PATENT DOCUMENTS  WO 94/02412  BOTOM  Feb. 3, 1994  Jul. 7, 1995  Ves  WO 94/02412  Document No.  Country  Date  Trademark Office  Atty. Docket 112430.134US7  Applicant: Lee et al.  Applicant: Lee et al.  Aug. 9, 1994  623  106  106  106  107  Trademark Office  Applicant: Lee et al.  Aug. 9, 1994  623  106  106  107  Trademark Office  Trademark Office  Trademark Office  Trademark Office  In re Applocket 112430.134US7  Applicant: Lee et al.  Applicant: Lee et al.  Aug. 9, 1994  623  106  106  106  107  Trademark Office  Trademark Office	

MeDly 3/18/03

and the second s



Form PTO-1449

U.S. Department of Commerce Patent and Trademark Office

Atty. Docket

In re Application No.

112430.134US7

Applicant:

09/993,739

Lee et al.

#### INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Filing Date Group
Nov. 23, 2001

1616

Gao, T.J. "Established competence of Bioactive Composite Bone Substitute on the Healing of Diaphyseal Segmental Defects in Sheep," Fifth World Biomaterials Congress, -May-29-June-2, Toronto, Canada. — ( 🥱 🗴 Glimcher et al., "Recent studies of the mineral phase in bone and its possible linkage to the organic matrix by protein-bound phosphate bonds", Phil. Trans. R. Soc. Lond., B 304:479-508, 1984. Glimcher et al., "Recent Studies of Bone Mineral: Is the Amorphous Calcium Phosphate Theory Valid?" J. Crystal Growth, 53: 100-119 (1981). Graves et al., "Resorbable Ceramic Implan...", J. Biomed. Mater. Res. Symposium, No. 2 (Part 1), pp. 91-115 (1971). Greenfield et al., "Formation chemistry of amorphous calcium phosphates prepared from. carbonate containing solutions", Calc. Tiss. Res., 9:152 (1972). Hirasawa et al., "Manufacture of high purity hydroxyapatite," Chemical Abstracts, 108 (10), p. 166, no. 78193h (March 7, 1988). Holmes et al., "Surface areas by gas adsorption on amorphous calcium phosphate and crystalline hydroxyapatite", Calc. Tiss. Res., 7:163 (1971). Ishikawa et al., "Effects of preparation in aqueous solution on properties of hydroxyapatites", Dent. Mater. J. 9(1):58 (1990) [CA 113:218168j] (Abstract) Jones et al., "Poly [L-Lactide] and Poly [L-Lactide] Ceramic Filled Composites: A Long Term in vivo/in vitro Degradation Study," Fifth World Biomaterials Congress, May 29-June 2, 1996, Toronto, Canada. Kamei et al., "Implantation of hydroxyapatite-bonded polymer," Fifth World Biomaterials Congress, May 29-June 2, 1996, Toronto, Canada. Kim et al., "Hyaluronan Based Biodegradable Scaffolds for Skeletal Tissue Reconstruction," Fifth World Biomaterials Congress, May 29-June 2, 1996, Toronto, Canada. Kinoshita et al., "Reconstruction of Mandibular Discontinuity Defects in Dogs using Autogenic Particulate Cancellous Bone and Marrow and Poly(L-lactide) mesh," Fifth World Biomaterials Congress, May 29-June 2, 1996, Toronto, Canada.

nerly 3/18/03



U.S. Department of Commerce Patent and Trademark Office Form PTO-1449 (REV. 8-83)

Atty. Docket In re Application No.

112430.134US7

Applicant:

09/993,739

#### INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Filing Date Nov. 23, 2001 Group

Lee et al.

1616

M	Labarthe et al., "Sur la structure et les properiétés des apatites carbonatées de type B phospho-calciques", Ann. Chem., 8:289 (1973).
	Ladizesky et al., "Hydrostatic Extrusion of Hydroxyapatite Polyethylene Composite", Fifth World Biomaterials Congress, May 29-June 2, 1996, Toronto, Canada.
	Liu et al., "Nano-Apatite/Polymer Composites II. Surface Modification of Nano-Apatite by Grafting of Polyethylene Glycol," Fifth World Biomaterials Congress, May 29-June 2, 1996, Toronto, Canada.
	Nylen et al., "Molecular and ultrastructural studies of non-crystalline calcium phosphates" Calc. Tiss. Res., 9:95 (1972).
	Oka et al., "Development of Artificial Osteo-Chondral Composite Material," Fifth World Biomaterials Congress, May 29-June 2, 1996, Toronto, Canada.
·	Otsuka et al., "Effect of particle size of metastable calcium phosphates on mechanical strength of a novel self-setting bioactive calcium phosphate", J. Biomed Mat. Res., 29:25 (1995).
	Pool, "Coral chemistry leads to human bone repair", Science, 269:1772 (March, 1995).
·	Posner et al., "Synthetic amorphous calcium phsophate and its relation to bone mineral structure", Bone Mineral Structure, 8:273-281 (1975).
	Rey et al., "The carbonate environment in bone mineral: a resolution-enhanced fourier transform infared spectroscopy study", Calcif. Tissue Int., 45:157 (1989).
	Rey et al., "Structural studies of the mineral phase of calcifying cartilage", J. Bone Min. Res., 6:515 (1991).
	Rey et al., "Preparation of Microporous Ceramic at Low Temperature from Poorly Crystalline Apatite", Symposium Abstract, 1993.
	Rizkalla et al., "Effect of Composition on Strength of Bioactive Composites," Fifth World Biomaterials Congress, May 29-June 2, 1996, Toronto, Canada.
	Saifullin, R.S., "Physical Chemistry of Inorganic Polymeric and Composite Materials", Chapter 1: Introduction, Ellis Horwood, New York.
	Selmani et al., "Bioerodible Polyester Foams for Orthopaedic Tissue Culture," Fifth

World Biomaterials Congress, May 29-June 2, 1996, Toronto, Canada.





TECH CENTER 1600/2900

Sheet 10 of 13

Form PTO-1449 (REV. 8-83)

U.S. Department of Commerce Patent and Trademark Office Atty. Docket In re Application No.

112430.134US7

09/993,739

Applicant:

Lee et al.

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Filing Date
Nov. 23, 2001

Group

1616

----

Termine et al., "Amorphous/Crystalline Interrelationships in Bone Mineral", Calc. Tiss. Res. 1, 8-23 (1967).

Törmälä, P., "Biodegradable Self-Reinforced Composite Materials; Manufacturing Structure and Mechanical Properties", Clinical Materials 10:29-34 (1992).

Tung et al., "An intermediate state in hydrolysis of amorphous calcium phosphate", Calcif. Tissue Int., 35:783 (1983).

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

DS1.1 DS1.400265.1

New 2/17/03



Sheet  $\underline{11}$  of  $\underline{13}$ 

			THE OF COMMEDCE	T 444	Oocket No.	11/2/2	0 12/1107		
SUBSTITUTE (MODIFIED)	SUBSTITUTE FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE						112430.134US7		
,			Serial No.		09/993	,739			
	WEODIAT.	1011 01001 001	Applicant		Lee et al.				
	STATEMEN	ION DISCLOSU IT BY APPLICA	ANT	Filing Date	•	Nov.	23, 2001		
	(Ose several	sheets if neces	saly)	Group		1616			
(37 CFR §1.9	8(b))			IDS Filed			·· •· -		
	-		U.S. PATENTS						
Examiner's Initials	Patent Number	Issue Date	Patentee		Class	Subclass	Filing Date (If Appropriate)		
11	4,429,691	02/07/84	Niwa et al.						
( )	4,698,375	10/06/87	Dorman et al.			7			
	4,713,076	12/15/87	Draenert et al.						
	4,722,948	02/02/88	Sanderson et al.	-					
V	5,007,930	04/16/91	Dorman et al.						
	FORE	IGN PATENT C	OR PUBLISHED FOREIGN	PATENT A	PELICATIO	DN			
Examiner's Initials	Document Number	Publication Date	Country or Patent Office			Subclass 1	Translation (Yes/No)		
M	EP 0 520 690	12/30/92	Europe EP						
(					1	(			
	OTHER DOCU	MENTS (INCLU	JDING AUTHOR, TITLE, [	ATE, PLAC	E OF PUBI	LICATION)			
M	Boskey, Adele I., (1997).	"Matrix Protein:	s and Mineralization: An O	verview", Co	nnect. Tiss	. Res., 35, (1	1-4):357-363		
1 .	Butterman, et al.,	The use of bo	ne allografts in the spine",	Clinic, Ortho	ped. Rel. R	es., 324: 75	(1996).		
	Crowley, et al., "P (1995).	rosthesis for pr	imary total hip replacemen	t", Int'l. J. Te	chnol. Ass	ess. Health (	Care, 11(4): 770		
	Denissen et al., "Net-shaped hydroxyapatite implants for release of agents modulating periodontal-like tissues", J. Periodontal Res., 32:40-46 (1997).								
V	Ducheyne, et al., and J. Wilson, Ed		ries in Ceramics, Vol. 1,; * fic New Jersey.	Introduction	to Biocerar	nic Composi	tes", L. Hench		
EXAMINER	nu	lun	DATE CO	NSIDERED	3	1/8/0	3		
	nitial citation consider		through citation if not in co	onformance a	and not cor	sidered. Inc	dude copy of this		

Revised: 27 January 1997





## MAR 1 4 2002

## **TECH CENTER 1600/2900**

Sheet 12 of 13

SUBSTITUTE FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE (MODIFIED) PATENT AND TRADEMARK OFFICE						Attorney Docket No.			112430.134US7		
(MODIFIED)	-	Serial No.			09	09/993,739					
			Applicant			Le	Lee et al.				
		ION DISCLOSU IT BY APPLICA		1	Filing Date	)		No	v. 2	3, 2001	
	(Use several	sheets if neces	sary)		Group			16	16		
(37 CFR §1.98	3(b))				IDS Filed						
	····		U.S. PATENTS								
Examiner's	Patent Number	Issue Date	Patentee			CI	ass	Sub	azışk	Filing Date	
Initials						·	1_		_	(If Appropriate)	
M	5,019,379	05/28/91	Domb et al.				<u> </u>		<u> </u>		
	5,049,157	09/17/91	Mittelmeier et al.						<u> </u>		
	5,264,215	11/23/93	Nakabayashi et al.								
	5,286,763	02/15/94	Gerhart et al.								
	5,342,441	08/30/94	Mandai et al.								
V/	5,352,715	02/28/92	Wallace et al.								
	FORE	IGN PATENT C	OR PUBLISHED FOREIG	N	PATENT AF	PPLI	CATIO	ON			
Examiner's Initials	Document Number	Publication Date	Country or Patent Offic			Cl	ass	Subo	ass	Translation (Yes/No)	
					-						
		i									
		_									
	OTHER DOCU	MENTS (INCLU	JDING AUTHOR, TITLE,	D	ATE, PLAC	E OF	PUB	LICAT	ION)		
W									Cement, Fifth		
ÍN	Hubbell, "Biomaterials in tissue engineering", Bio/technology, 13:56, (1995).										
M	Thissen et al., "Surface modification of bioresorbable polymers by plasma induced graft polymerization", Fifth World Biomaterials Congress, Toronto, Canada May 29-June 2, 1996.										
EXAMINER	her len Date Considered 3/10/03										
	EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.										

Please type a plus sign (+) inside this box

Under the Paperwork Reduction Act of 1995, no person

PTO/SB/08A (08-00) Approvor use through 10/31/2002. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

#### INFORMATION DISCLOSUR STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet of |13 13

Complete if Known						
Application Number	09/993,739					
Filing Date	November 23, 2001					
First Named Inventor	Dosuk D. Lee					
Group Art Unit	1616					
Examiner Name	TBD					
Attomey Docket Number	112430 134US7					

U.S. PATENT DOCUMENTS								
Examiner Initials	Cite No.1	U.S. Patent Number	Kind Code <sup>2</sup>	or Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear		
74	-	6,201,039E	31	Brown, et al.	03/13/2001			
				-				
					1			
	•				1			
						*		
				****		<u> </u>		
			<del>-   -</del>			<i>3</i> 40.7		
			<del></del>			4a= -		
				<del></del>				
					+ +	<del></del>		
<del></del>					<del>                                     </del>			
		-						

				FORE	IGN PATENT DOCUMENTS	3		
Examiner	Cite	<b></b>	Foreign Patent Do		Name of Patentee or	Date of Publication of	Pages, Columns, Lines, Where Relevant	
Initials*	No.1	Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> ( <i>if known</i> )	Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	T6
								╀
		oxdot						
		$\perp \perp$			<u> </u>			
			_				<del></del>	+
								+
					<del> </del>			+
			-				<del></del>	1
			·					
			_					

Examiner Signature	10 1 Ren	Date Considered	3/18/03

<sup>\*</sup>EXAMINER: Initial if reference considered, whether once citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Docket Number 112430.134US7

09/993,739

Applicant Lee et al.

Filing Date

Group Art Unit

Application Number

November 23, 2001

1616

5,650,176 5,676,976	Jul 22, 1997	Lee et al.			IF APPROPRIATE
5,676,976			424	602	Dec 29, 1995
	Oct 14, 1997	Lee et al.	424	602	May 19, 1995
5,683,461	Nov 4, 1997	Lee et al.	623	16	Dec 29, 1995
6,027,742	Jul 22, 1997	Lee et al.	424	602	Dec 29, 1995
6,117,456	Sep 12, 2000	Lee et al.	424	602	Oct 16, 1996
6,132,463	Oct 17, 2000	Lee et al.	623	16	Oct 16, 1996
6,139,578	Oct 31, 2000	Lee et al.	623	16.11	Feb 13, 1998
214,368 B1	Apr 10, 2001	Lee et al.	424	423	May 20, 1996
,277,151 B	Aug 21, 2001	Lee et al.	623	23.61	Feb 13, 1998
,287,341 B	Sep 11, 2001	Lee et al.	623	16.11	Mar 6, 1998
331,312 B1	Dec 18, 2001	Lee et al.	424	426	Mar 2, 1998
	6,027,742 6,117,456 6,132,463 6,139,578 214,368 B1 ,277,151 B ,287,341 B 331,312 B1	6,117,456 Sep 12, 2000 6,132,463 Oct 17, 2000 6,139,578 Oct 31, 2000 214,368 B1 Apr 10, 2001 ,277,151 B Aug 21, 2001 ,287,341 B Sep 11, 2001	6,117,456 Sep 12, 2000 Lee et al. 6,132,463 Oct 17, 2000 Lee et al. 6,139,578 Oct 31, 2000 Lee et al. 214,368 B1 Apr 10, 2001 Lee et al. 277,151 B Aug 21, 2001 Lee et al. 287,341 B Sep 11, 2001 Lee et al.	6,117,456 Sep 12, 2000 Lee et al. 424 6,132,463 Oct 17, 2000 Lee et al. 623 6,139,578 Oct 31, 2000 Lee et al. 623 214,368 B1 Apr 10, 2001 Lee et al. 424 ,277,151 B Aug 21, 2001 Lee et al. 623 ,287,341 B Sep 11, 2001 Lee et al. 623	6,117,456 Sep 12, 2000 Lee et al. 424 602 6,132,463 Oct 17, 2000 Lee et al. 623 16 6,139,578 Oct 31, 2000 Lee et al. 623 16.11 214,368 B1 Apr 10, 2001 Lee et al. 424 423 ,277,151 B Aug 21, 2001 Lee et al. 623 23.61 ,287,341 B Sep 11, 2001 Lee et al. 623 16.11

Foreign Patent Documents							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS		LATION
INITIAL	NOMBER			<del>                                     </del>	-	YES	NO
ļ- <del></del>				1			<u> </u>
				<u> </u>			

Other Docu	cuments (Including Author, Title, Date Pertinent Pages, Etc.)

	l	
EXAMINER/	/1	
=>0	A /ID	
l //	// / . //	
l //	11/1/1/ Vera	
/ ( <i>)</i>	100-0	1

DATE CONSIDERED

EXAMINER: Initial if citation is considered, whether or not citation is in conformance with MPEP § 609: Draw Line through citation if not conformance and not considered. Include copy with next communication to applicant.